

APPENDIX B
Mitigation Plan
for the Construction and Maintenance of the MVID Fish Screen Replacement
Project

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CONSTRUCTION AND MAINTENANCE OF THE MVID FISH SCREEN REPLACEMENT PROJECT

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BPA is responsible to ensure that various terms, conditions, and requirements associated with the project are completed in order to enable funding for project implementation. The following sources define the requirements to be met:

1. Final Environmental Assessment for the MVID Project, East and West Diversion Screening Proposal;
2. February 23, 2004 Custom Report for the “Endangered Species Act Section 7 Consultation Biological Opinion and Magnuson-Stevens Fishery Conservation Management Act Essential Fish Habitat Consultation, Habitat Improvement Program”;
3. January 30, 2004 FWS BO letter for the project; and
4. December 24, 2003 Okanogan County Weed Control Board letter.

Through a joint effort with various stakeholders and concerned entities, the following table enumerates the mitigation measures that will be implemented:

#	MITIGATION TASKS	SOURCE OF MITIGATION REQUIREMENT	WHERE WILL REQUIREMENT BE ADDRESSED/DOCUMENTED -WHEN	TIMELINE FOR IMPLEMENTING REQUIREMENT A	PARTY TO ENSURE IMPLEMENTATION
1	Prepare Final EA	P.L. 91-190, 42 U.S.C. 4321-4347, Jan. 1, 1970, 83 Stat 852) as amended	▪ Final EA –March 15, 2004	March 15, 2004	BPA (C. Keller)
2	Prepare FONSI	P.L. 91-190, 42 U.S.C. 4321-4347, Jan. 1, 1970, 83 Stat 852) as amended	Finding of No Significant Impact document - March 15, 2004	March 15, 2004	BPA (C. Keller)
3	Secure all regulatory permits before project implementation and follow the permit conditions	HIP BO Custom Report – General Condition 1 –p.2 of 16	▪ Final EA – March 15, 2004	Before project construction	BPA (C.Keller)
4	Actions that affect listed plants and animals must be consulted with the FWS	HIP BO Custom Report – General Condition 2 –p.2 of 16	▪ Final EA – March 15, 2004	Ongoing, by March 15, 2004	BPA (C.Keller)
5	Project modification must be re-evaluated before work may be carried out	HIP BO Custom Report – General Condition 3 – p.2 of 16	▪ Standard Operating Procedure	Before project construction	MVID (V.Jolley) MWH (B. Cutting) BPA (C. Keller)
6	Consult design with NOAA Fisheries – ensure consistency w/ fish Passage Facility Guidelines and Criteria	HIP BO Custom Report – Condition 1 – p.3 of 16	▪ Final EA – March 15, 2004 ▪ BPA to put in MWH contract– March 15, 2004	Complete by March 15, 2004	BPA (C. Keller) BPA (L. Hermeston)
7	NOAA Fish to: 1. verify passage installation, 2. measure hydraulic conditions, and 3. identify successful passage	HIP BO Custom Report – Condition 2 – p.3 of 16	▪ Standard Operating Procedure	Post construction	NOAA Fisheries (B. Nordlund) to do follow-up
8	O&M of fish screen in accord with O&M	HIP BO Custom Report –	▪ Plan drafted by BOR; finalize plan by April	During and post	MVID (V. Jolley) to

	Plan to be prepared	Condition 3 – p.3 of 16	15, 2004 ▪ Implementation of O&M Plan ongoing ▪ BPA to put in MWH contract to finalize – March 15, 2005	construction	implement MWH (B. Cutting) with assistance from BOR (G. Knott)
9	Fish screens to be consistent with NOAA Fisheries Screen criteria and guidelines	HIP BO Custom Report – Condition a – p.4 of 16	▪ Final EA – March 15, 2004 ▪ BPA to put in MWH contract –March 15, 2004	During and post construction	BPA (C. Keller) NOAA Fisheries (B. Nordlund) BPA (L. Hermeston)
10	Fish passage to be designed in accordance with NOAA Fisheries passage guidelines and criteria	HIP BO Custom Report – Condition b – p.4 of 16	▪ Final EA – March 15, 2004 ▪ BPA to put in MWH contract –March 15, 2004	During and post construction	BPA (C. Keller) NOAA Fisheries (B. Nordlund) BPA (L. Hermeston)
11	Screens to be sized to match historic water use	HIP BO Custom Report – Condition c – p.4 of 16	▪To ensure that screens are sized to coincide with traditional water right uses in the district ▪ BPA to put in MWH contract –March 15, 2004	Before and during construction	BPA (L. Hermeston) contract with MWH (B. Cutting)
12	O&M of fish passage in accord with O&M Plan to be prepared	HIP BO Custom Report – Condition d – p.4 of 16	Same as #8 above	Same as #8 above	Same as #8 above
13	Project proponent will prepare vegetation plan to: a. require native species, b. identify seed/plant source, seed mixes, soil preparation, etc., c. include vegetation management strategies, d. address abiotic factors, and e. certify only noxious weed-free vegetation for revegetation	HIP BO Custom Report – Condition a. – p.5 of 16	▪ Final EA – March 15, 2004 ▪ BPA to put in MWH contract– March 15, 2004 ▪ Incorporate into final Site Rehabilitation Plan; see #28 below ▪ Finalize plan by April 15, 2004	During and post construction	BPA (C. Keller) BPA (L. Hermeston) and C. Keller) contract with MWH (B. Cutting)
14	Minimum area	HIP BO Custom Report – Condition 1.a. -p.8 of 16	▪ Final EA – March 15, 2004 ▪ BPA to put in MWH contract –March 15, 2004 ▪ Incorporate into final Site Rehabilitation Plan – April 15, 2004	During construction	BPA (C. Keller) BPA (L. Hermeston); contract with MWH (B. Cutting)
14	Timing of in-water work	HIP BO Custom Report – Condition 1.b. -p.8 of 16	▪ Final EA – March 31, 2004 ▪ BPA to put in MWH contract – March 15, 2004 ▪ HIP BO Form 2 dated December 15, 2004	During construction	BPA (C. Keller) BPA (L. Hermeston); contract with MWH (B. Cutting) BPA (C. Keller)
16	Cessation of work	HIP BO Custom Report – Condition 1.c. -p.8 of 16	▪ BPA to put in MWH contract –March 15, 2004	During construction	BPA (L. Hermeston); contract with MWH (B. Cutting)
17	Fish screens to be consistent with NOAA Fisheries Screen criteria and guidelines	HIP BO Custom Report – item 1.d -p.8 of 16	Same as # 9 above	Same as # 9 above	Same as # 9 above
18	Fish passage to be designed in accordance with NOAA Fisheries passage guidelines and criteria	HIP BO Custom report – item 1.e -p.8 of 16	Same as # 10 above	Same as # 10 above	Same as #10 above

19	Pollution and Erosion Control Plan	HIP BO Custom Report – item 1.f -p.8 and 9 of 16	<ul style="list-style-type: none"> ▪ Final EA – March 15, 2004 ▪ Draft plan prepared; finalize plan by April 15, 2004 ▪ BPA to put in MWH contract –March 15, 2004 	During and Post Construction	BPA (C. Keller) BPA (L. Hermeston and C. Keller) contract with MWH (B. Cutting)
20	Treat construction discharge water by addressing: water quality, discharge velocity, spawning areas, and pollutants	HIP BO Custom report – item 1.g -p.9 of 16	<ul style="list-style-type: none"> ▪ Incorporate into final Pollution and Erosion Control Plan – see #19 above ▪ Finalize by April 15, 2004 ▪ BPA to put in MWH contract– March 15, 2004 	During Construction	BPA (L. Hermeston and C. Keller) contract with MWH (B. Cutting)
21	Peconstruction activity to include making, emergency erosion controls, and temporary erosion controls	HIP BO Custom report – item 1.i -p.9 of 16	<ul style="list-style-type: none"> ▪ Incorporate into final Pollution and Erosion Control Plan – see #19 above ▪ Draft prepared by BOR (G. Knott), finalize April 15, 2004 ▪ BPA to put in MWH contract– March 15, 2004 	Before Construction	BPA (L. Hermeston and C. Keller) contract with MWH (B. Cutting)
22	Temporary access roads to address steep slopes, minimizing soil disturbance, temporary stream crossing, and obliteration of temporary access roads	HIP BO Custom report – item 1.j -p.9 of 16	<ul style="list-style-type: none"> ▪ Incorporate into final Site Rehabilitation Plan – see #28 below ▪ BPA to put in MWH contract– March 15, 2004 	During, and Post Construction	BOR prepared BPA (L. Hermeston and C. Keller) contract with MWH (B. Cutting)
23	Heavy equipment	HIP BO Custom Report – item 1.k -p.10 of 16	<ul style="list-style-type: none"> ▪ Final EA – March 15, 2004 ▪ Incorporate into final Pollution and Erosion Control Plan – see #19 above ▪ BPA to put in MWH contract– March 15, 2004 	Before Construction	BPA (C. Keller) BPA (L. Hermeston and C. Keller) contract with MWH (B. Cutting)
24	Site preparation	HIP BO Custom Report – item 1.l -p.10 of 16	<ul style="list-style-type: none"> ▪ BPA to put in MWH contract – March 15, 2004 ▪ Incorporate into final Site Rehabilitation Plan (see #28 below) and final Pollution and Erosion Control Plan (see #19 above) 	Before Construction/ Staging	BPA (L. Hermeston) contract with MWH (B. Cutting)
25	Isolation of in-water work area	HIP BO Custom Report – item 1.m -p.10 of 16	<ul style="list-style-type: none"> ▪ Final EA –March 15, 2004 ▪ Incorporate into final Pollution and Erosion Control Plan – see #19 above ▪ Finalize by April 15, 2004 ▪ BPA to put in MWH contract– March 15, 2004 	During Construction	BPA (C. Keller) BPA (L. Hermeston) contract with MWH (B. Cutting)
26	Fish capture and release	HIP BO Custom Report – item 1.o -p.10 and 11 of 16	<ul style="list-style-type: none"> ▪ Final EA - March 15, 2004 ▪ BPA to put in MWH contract – March 15, 2004 	During Construction	BPA (C. Keller) BPA (L. Hermeston) contract with MWH (B. Cutting) WDFG (C. Iten)
27	Earthwork	HIP BO Custom Report – item 1.p. – p.11 of 16	<ul style="list-style-type: none"> ▪ BPA to put in MWH contract – March 15, 2004 	During Construction	BPA (L. Hermeston) contract with MWH

					(B. Cutting)
28	Site Rehabilitation Plan	HIP BO Custom Report – item 1.r - p.12 of 16	<ul style="list-style-type: none"> Site Rehabilitation Plan- in draft; finalize by April 15, 2004 BPA to put in MWH contract –March 15, 2004 Finalize plan April 15, 2004 	April 15, 2004	BPA (L. Hermeston and C. Keller) contract with MWH to complete plan and ensure implementation
29	Implementation monitoring	HIP BO Custom Report – item 1.t - p.13 and 14 of 16	<ul style="list-style-type: none"> Incorporate with Site Rehabilitation Plan – see #28 above Report due 120 days after end of construction 	During and post construction	BPA (C. Keller) to receive monitoring reports on related and pertinent topics
30	Annual monitoring report	HIP BO Custom Report – item 1.u - p.14 of 16	<ul style="list-style-type: none"> Standard Operating Procedure - database maintained by BPA 	Post construction;	BPA (N. Weintraub) provide annual reports to NOAA Fisheries
31	Annual coordination	HIP Custom Report – item 1.v - p.14 of 16	<ul style="list-style-type: none"> Standard Operating Procedure 	Post Construction	BPA (KEC responsibility)
32	Confirmation of fish presence	HIP BO –pages 192 and 193, section 2.6.3 Terms and Conditions – item 1.c.	<ul style="list-style-type: none"> Final EA (BPA) – March 15, 2004 Incorporate with snorkel surveys, #39 below BPA to put in MWH contract – March 15, 2004 	Before and during construction	BPA (C. Keller) WDFW (C. Iten) MWH (B. Cutting)
33	Project access	HIP BO – pages 193, section 2.6.3 Terms and Conditions – item 1.d.	<ul style="list-style-type: none"> Incorporate into O&M Plan -see #8 above BPA to put in MWH contract to finalize – March 15, 2004 	During construction	MWH (B. Cutting)
34	Salvage notice	HIP BO –page 193, section 2.6.3 Terms and Conditions – item 1.f.	Incorporate with fish capture and release #26 above	See #26 above	See #26 above
35	Minimize bull trout disturbance downstream of project B	FWS BO – RPM no.1 –p.75	<ul style="list-style-type: none"> Final EA – March 15, 2004 BPA to put in MWH contract – March 15, 2004 	During construction	BPA (C. Keller) BPA (L. Hermeston) contract with MWH (B. Cutting)
36	Minimize habitat degradation and temporary degradation of downstream habitat B	FWS BO –RPM no. 2 –p.75	<ul style="list-style-type: none"> Final EA – March 15, 2004 BPA to put in MWH contract – March 15, 2004 	During construction	BPA (C. Keller) BPA (L. Hermeston) contract with MWH (B. Cutting)
37	Biologist on-site during construction B	FWS BO – to implement RPM no.1 above - p.76	<ul style="list-style-type: none"> Final EA (BPA) – March 15, 2004 	During construction	Partner in this project WDFW (C. Iten) to be onsite biologist during construction
38	Adjust ramping rates B	FWS BO – to implement RPM no. 1 above - p.76	<ul style="list-style-type: none"> Incorporate into MWH contract – March 15, 2004 	During construction	BPA (L. Hermeston) contract with MWH (B. Cutting)
39	Snorkel surveys B	FWS BO – to implement RPM no. 1 above - p.76	<ul style="list-style-type: none"> Surveys to be conducted accordingly, by WDFW – during inwater work if safe 	During project in-water work	Partner in this project WDFW (C. Iten) to be

			conditions prevail		onsite biologist during construction
40	If contaminant spill, contact FWS B	FWS BO – to implement RPM no. 2 above – p.76	<ul style="list-style-type: none"> ▪ Incorporate with Pollution and Erosion Control Plan – see #19 above ▪ Finalize by April 15, 2004 ▪ BPA to put in MWH contract – March 15, 2004 	During construction	BPA (L. Hermeston) contract with MWH (B. Cutting)
41	Contact FWS if sediment discharge exceeds 100 yards downstream B	FWS BO – to implement RPM no. 2 above – p.76	<ul style="list-style-type: none"> ▪ BPA to put in MWH contract – March 15, 2004 	During construction	BPA (L. Hermeston) contract with MWH (B. Cutting)
42	Concerns by the Okanogan County Weed Control Board (Board)	Their letter received December 24, 2003	<ul style="list-style-type: none"> ▪ Final EA – March 15, 2004 ▪ Incorporate with Site Rehabilitation Plan – see #28 above ▪ BPA to put in MWH contract – March 15, 2004 	Before, during, and post construction	BPA (L. Hermeston and C. Keller) contract with MWH (B. Cutting) to ensure Board's concerns are included and implemented
43	Mitigation Measure –construct in the dry	Final EA – section 2.1.4	<ul style="list-style-type: none"> ▪ Final EA – March 15, 2004 ▪ See #25 above 	See #25 above	See #25 above
44	Mitigation Measure – use clean cobble to construct cofferdams	Final EA– section 2.1.4	<ul style="list-style-type: none"> ▪ Final EA – March 15, 2004 ▪ BPA to put in MWH contract – March 15, 2004 	During construction	BPA (L. Hermeston and C. Keller) contract with MWH (B. Cutting)
45	Mitigation Measure –employ fish salvage efforts	Final EA– section 2.1.4	<ul style="list-style-type: none"> ▪ Same as salvage notice (#34); incorporate with fish capture and release (#26) above 	See #34 and #26 above	See #34 and #26 above
46	Mitigation Measure –do not discharge turbid water directly into river	Final EA– section 2.1.4	<ul style="list-style-type: none"> ▪ BPA to put in MWH contract – March 15, 2004 ▪ See #20 above 	See #20 above	See #20 above
47	Mitigation Measure –prepare Pollution and Erosion Control Plan	Final EA– section 2.1.4	<ul style="list-style-type: none"> ▪ See #19 above 	See #19 above	See #19 above
48	Mitigation Measure –monitor for any leakage of equipment fluids	Final EA– section 2.1.4	<ul style="list-style-type: none"> ▪ Incorporate with Pollution and Erosion Control Plan – see #19 above ▪ Finalize by April 15, 2004 ▪ BPA to put in MWH contract – March 15, 2004 	During construction	BPA (L. Hermeston) contract with MWH (B. Cutting)
49	Mitigation Measure –restrict removal of trees	Final EA– section 2.1.4	<ul style="list-style-type: none"> ▪ Incorporate with vegetation plan – see #13 above ▪ BPA to put in MWH contract – March 15, 2004 	See # 13 above	BPA (L. Hermeston) contract with MWH (B. Cutting)
50	Mitigation Measure –revegetate and restore	Final EA– section 2.1.4	<ul style="list-style-type: none"> ▪ Incorporate with vegetation plan – see #13 	See #13 above	BPA (L. Hermeston)

	site		above ▪ Finalize by April 15, 2004 ▪ BPA to put in MWH contract – March 15, 2004		contract with MWH (B. Cutting)

A target timeline: 1, start of project contracting and construction = March 15, 2004; 2. start of primary construction = May 15, 2004; 3. estimated construction period = 8-10 weeks; 4. completion of all on-site construction = August 1, 2004

B In their January 20, 2004 letter and accompanied Biological Opinion, the FWS focused attention on two reasonable and prudent measures (RPMs) for bull trout, and prescribed five terms and conditions on how to implement those two RPMs. A follow-up telephone conversation was made in order to request clarification and better definition on how to alternatively attain the RPMs, under real field circumstances. The following practicable standards for meeting the RPMs were agreed among the FWS and BPA, and WDFW (the representative onsite biologist during construction):

1. Snorkeling to be conducted only if flows are below 200 cfs, and if visibility is at least 10 feet.
2. To minimize harm to bull trout during cofferdam installation: a. background turbidity levels shall be determined at 100 foot intervals upstream and downstream of the project location; b. if safe to snorkel, the area within 100 yards downstream of the project site will be checked for fish. If fish are found, snorkeling will be repeated at 3 hour intervals until fish have left the area; c. immediately prior to cofferdam construction, fish will be moved out of the affected area by walking through the affected project area and repeated accordingly. When the cofferdam construction is completed, the affected areas will be salvaged for any fish inadvertently entrained in the dewatered work area; and d. if a sediment/turbidity plume exceeds 5 NTUs above background sediment, exceeds 10% above background, for a distance of more than 300 feet below the project site, work shall cease until background levels are once again met.